



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,055	03/30/2004	Reinhard H.H. Poetzsch	11884/415801	1300
23838	7590	04/08/2009		
KENYON & KENYON LLP 1500 K STREET N.W. SUITE 700 WASHINGTON, DC 20005			EXAMINER LOFTUS, ANN E	
			ART UNIT 3692	PAPER NUMBER
			MAIL DATE 04/08/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/812,055	<b>Applicant(s)</b> POETZSCH, REINHARD H.H.	
	<b>Examiner</b> ANN LOFTUS	<b>Art Unit</b> 3692	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of the Claims***

1. This action is in response to an amendment filed on 1/23/09. Claims 1-10 and 12 are pending. Claims 11 and 13 are cancelled.
2. The application was filed on 3/30/2004. No priority is claimed in the declaration.

### ***Continued Examination Under 37 CFR 1.114***

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission has been entered.

### ***Response to Arguments***

4. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection. Claim 1 is the only independent claim, and it has a substantial amendment.

Art Unit: 3692

5. The applicant did not traverse the Official Notice statements from the previous Office Action, thus the Official Notice statements are taken to be admitted prior art. See MPEP §2144.03.

***Claim Rejections - 35 USC § 101***

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-10 and 12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The Bilski decision establishes the following test for claimed processes under 35 USC 101. The process passes if :

"(1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing. See Benson, 409 U.S. at 70 ('Transformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim that does not include particular machines. '); Diehr, 450 U.S. at 192 (holding that use of mathematical formula in process 'transforming or reducing an article to a different state or thing' constitutes patent-eligible subject matter); see also Flook, 437 U.S. at 589 n.9 ('An argument can be made [that the Supreme] Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a 'different state or thing' '); Cochrane v. Deener, 94 U.S. 780, 788 (1876) ('A process is...an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing.').<sup>7</sup> A claimed process involving a fundamental principle that uses a particular machine or apparatus would not pre-empt uses of the principle that do not also use the specified machine or apparatus in the manner claimed. And a claimed process that transforms a particular article to a

Art Unit: 3692

specified different state or thing by applying a fundamental principle would not pre-empt the use of the principle to transform any other article, to transform the same article but in a manner not covered by the claim, or to do anything other than transform the specified article.” (*In re Bilski*, 88 USPQ2d 1385, 1391 (Fed. Cir. 2008))

Bilski further says that the particular machine or apparatus or transformation must be central to the purpose of the claimed process, and not mere extra-solution activity such as gathering data or recording results. In this case, data gathering steps are tied to a memory, but the core steps of calculating are not recited as tied to a particular machine.

As far as the transformation, Bilski also says on page 28 “Purported transformations of manipulations simply of public or private legal obligations or relationships, business risks, or other such abstractions cannot meet the test because they are not physical objects or substances, and they are not representative of physical objects or substances.” The transformation of data unrelated to the physical world is thus not sufficient. In this case, the data transformed represent an approximation of a net present value of a possible future action related to a hypothetical basket of options. This is not sufficiently related to physical data to satisfy the test.

Dependent claims 2-10 and 12 do not remedy the problem. Claims 1-10 and 12 recite a method that is not tied to a particular machine or apparatus nor does it transform a particular article into a different state or thing; therefore, claims 1-10 and 12 are directed to non-statutory matter under § 101.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 1-10 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The written description (including the drawings and original claims and incorporated references) is required to support possession of the claimed scope of the invention. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. If the limitation is not explicit, the applicant has the burden of showing that a person of ordinary skill in the art "would have understood, at the time the patent application was filed, that the description requires the limitation." Hyatt, 47USPQ 2d @1131. An arbitrary narrowing of the scope of the claim is not compliant unless the description explicitly supports or would require the narrowing limitation.

The amendment to claim 1 "wherein said calculating ...to predetermined number" is not explicitly discussed in the quoted specification paragraphs. Absent a fuller explanation, the examiner concludes that the amendment constitutes new matter. The applicant is required to either explain in more detail how the specification correlates to the concepts in the amendment, or delete the new matter. The dependent claims are rejected as depending on a rejected claim.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-10 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, the claim recites a first equation and a second equation. The claim does not recite that the equations are different in any particular way, thus it is unclear whether they are different and if so, how. The scope of the claim is interpreted as including cases where the equations are identical or equivalent.

The remaining claims listed are rejected as inheriting the problems cited.

### ***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1- 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over

- "The Performance of Analytical Approximations for the Computation of Asian Quanto-Basket Option Prices", written by **Datey**, Gauthier, and Simonato in 2003 - herein referred to as Datey, in view of

Art Unit: 3692

- “Asian basket spreads and other Exotic Averaging Options”, written by **Castellacci** and Siclari in 2003 – herein referred to as Castellacci, in view of
- US 2002 0082967 filed 12/30/99 by **Kaminsky** et al. in view of
- US 2003 0208430 filed 4/13/01 (as PCT US01 12264) by **Gershon**.

As per claim 1, 2, 4, Datey teaches calculating net present value (current price) of an option on a standard desktop computer on page 58, near line 1. It would have been obvious to a person of ordinary skill in the art at the time of the invention that the inputs were read into memory for the purpose of the calculations. Datey teaches that the inputs are comprised of an evaluation date, market and contract data for one or more underlyings belonging to a basket on page 61, Table 1. Thus Davey teaches

Reading an evaluation date into memory,

Reading contract data for one or more underlyings belonging to a basket into the memory,

And reading market data for one or more underlyings belonging to the basket into the memory.

Datey does not explicitly teach a put option. Castellacci teaches an indication of whether the NPV is designated for a call or put following equation 14. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Davey to add reading into memory an indication of call or put in order to have a correct valuation from the calculations.

Davey teaches calculating a first moment of a sum of spot values of two or more underlyings between equations 1 and 3. Datey teaches calculating a second moment of



Art Unit: 3692

the sum of spot values of two or more underlyings of the basket, where wherein the first and second moments are approximate log normal distributions in the section IV Analytical Approximations.

Davey mentions Black Scholes, but does not explicitly set forth applying it to moments. Castellacci directly teaches applying it to moments. Castellacci teaches applying a Black Scholes formalism to the first and second moments to determine the net present value of an average spot basket option. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Davey to add applying a Black Scholes formalism to the first and second moments to determine the net present value of an average spot basket option in order to use a credible trusted valuation technique.

Davey teaches calculating the first moment using an equation on page 59. Davey teaches a choice of equations in section IV. On page 72 Davey teaches that the accuracy of these equations varies with volatility and term length. Volatility comes from market data and term length is contract data. Thus Davey judges the equations as a function of both a subset of the contract data and a subset of the market data. Davey does not go beyond suggesting that accuracy of one of the equations decreases with market and contract data. Davey does not specifically teach using a first equation if the absolute value of a value calculated as a function of both a subset of the contract data and a subset of the market data is greater than a predetermined number, and using a second equation if the absolute value of the value is less than or equal to the predetermined number. Kaminsky teaches in paragraph 110 page 8 using a first

Art Unit: 3692

equation (modified with the additional rules) if the absolute value of a value calculated (aggregate risk) is greater than a predetermined number (threshold), and using a second equation (unmodified) if the absolute value of the value is less than or equal to the predetermined number. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the Davey Castellacci combination to add using a first equation if the absolute value of a value calculated (aggregate risk) is greater than a predetermined number, and using a second equation if the absolute value of the value is less than or equal to the predetermined number in order to implement tighter controls in high risk trades. The Davey Castellacci Kaminsky combination does not teach a value calculated as a function of both a subset of the contract data and a subset of the market data. Gershon teaches in item 46 Fig 2B a value calculated as a function of both a subset of the contract data and a subset of the market data in item 46 Fig 2B. Thus it would have been obvious to a person of ordinary skill in the art at the time of the invention to further modify the combination thus far to add a value calculated as a function of both a subset of the contract data and a subset of the market data in order to capture the known determinants of risk in option pricing, as Gershon describes them.

As to claim 3, Davey does not explicitly teach forward spots. Castellacci teaches a modified forward spot between equations 8 and 9. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Davey to add a modified forward spot for the two or more underlyings in order to extend the pricing method to cover more types of options.

As to claims 5 and 6, Davey teaches a modified strike value in footnote 1.

As to claims 7 and 8, Davey teaches a modified normal distribution

As to claims 9 and 10, Davey teaches a modified normal distribution function on page 68.

14. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davey in view of Castellacci in view of Kaminsky in view of Gershon as applied above, further in view of Official Notice.

As to claim 12, Davey teaches an output device (desktop computer with implied monitor) on page 58, near line 1. It would have been obvious to a person of ordinary skill in the art at the time of the invention that the net present value calculated would be displayed on the output device. Davey does not teach that a first message would be displayed if the net present value is greater than a predetermined value, nor a second message if the net present value is less than a predetermined value.

Official Notice [now admitted prior art] is taken that the following was old and well-known in the art at the time of the invention. The goal of pricing options is to determine when to buy and sell, and the determination is made by comparing the market price to the calculated net present value. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Davey and Castellacci to add a first message if the option is overpriced or underpriced to help the user immediately determine how to take advantage of the situation. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Davey and Castellacci to add if the net present value is greater than the predetermined

Art Unit: 3692

value then displaying a first message on an output device, and if the net present value is less than the predetermined value then displaying a second message on the output device in order to make quick and accurate profitable use of the displayed information.

### ***Conclusion***

15. While portions of interest have been indicated, all references should be considered for the entirety of their teachings.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ann Loftus whose telephone number is 571-272-7342. The examiner can normally be reached on M-F 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Abdi can be reached on 571-272-6702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Application/Control Number: 10/812,055

Page 12

Art Unit: 3692

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AL

/Susanna M. Diaz/

Primary Examiner, Art Unit 3692